

BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP

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INTELLECTUAL PROPERTY LAW
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SUNNYVALE, CA 94085-4040

FACSIMILE: (303) 740-6962

**RECEIVED
CENTRAL FAX CENTER****FACSIMILE COVER SHEET****DEC 05 2007**

Deliver to: Kimberly McLean-Mayo, USPTO Art Group: 2187
Facsimile No.: (571) 273-8300 Date: December 5, 2007
From: Brent E. Vecchia, Reg. No. 48,011
Our Docket No.: 42P15529 Number of pages 25 including this sheet.
Application No.: 10/643,826 Filing Date: 8/18/2003
Docket Due Date(s): 12/5/2007

Enclosed are the following documents:

<input type="checkbox"/> Amendment: _____ (_____ pgs)	<input type="checkbox"/> Issue Fee Transmittal
<input checked="" type="checkbox"/> Appeal Brief (<u>21</u> pgs)	<input type="checkbox"/> Notice of Appeal (in duplicate)
<input type="checkbox"/> Application: _____ (_____ pgs) w/cover & abstract)	<input type="checkbox"/> Petition for: _____
<input type="checkbox"/> Assignment & Cover Sheet (_____ pgs)	<input type="checkbox"/> Request for Continued Examination (RCE)
<input checked="" type="checkbox"/> Certificate of Facsimile _____	<input type="checkbox"/> Reply Brief (_____ pgs)
<input type="checkbox"/> Continued Prosecution Application (CPA)	<input type="checkbox"/> Request & Certification Under 35 USC 122(b)(2)(B)(i)
<input type="checkbox"/> Declaration & POA (_____ pgs)	<input type="checkbox"/> Request to Rescind Previous Nonpublication Request
<input type="checkbox"/> Drawings: _____ sheets, _____ figures	<input type="checkbox"/> Response to Notice of Missing Parts & Formalities Letter
<input type="checkbox"/> Extension of Time: _____	<input type="checkbox"/> Response to Written Opinion (_____ pgs)
<input checked="" type="checkbox"/> Fee Transmittal (in duplicate)	<input type="checkbox"/> Terminal Disclaimer
<input type="checkbox"/> IDS & PTO/SB/08 (_____ pgs)	<input type="checkbox"/> Transmittal of Publication Fee Due
<input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Transmittal Letter

CERTIFICATE OF MAILING/TRANSMISSION (37 CFR 1.84)

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Brent E. Vecchia
Brent E. Vecchia

12/5/2007

Date

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)		Application No.	10/643,826
		Filing Date	August 18, 2003
		First Named Inventor	Marco Wirasinghe
		Art Unit	2187
		Examiner Name	Kimberly McLean-Mayo
Total Number of Pages in This Submission	25	Attorney Docket Number	42P15529

ENCLOSURES (check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> PTO/SB/08 <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Basic Filing Fee <input type="checkbox"/> Declaration/POA <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): <div style="border: 1px solid black; padding: 5px; min-height: 50px;"> Facsimile Transmittal Sheet </div>
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Brent E. Vecchia, Reg. No. 48,011 BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
Signature	<i>Brent E. Vecchia</i>
Date	December 5, 2007

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Typed or printed name	Brent E. Vecchia		
Signature	<i>Brent E. Vecchia</i>	Date	December 5, 2007

Based on PTO/SB/21 (10-07) as modified by Blakely, Sokoloff, Taylor & Zafman (wtr) 10/05/2007.
SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

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FEE TRANSMITTAL for FY 2007		<i>Complete if Known</i>	
<small>Patent fees are subject to annual revision.</small>		Application Number	10/643,826
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		First Named Inventor	Marco Wirasinghe
		Examiner Name	Kimberly McLean-Mayo
		Art Unit	2187
		Attorney Docket No.	42P15529
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.			
TOTAL AMOUNT OF PAYMENT	(\$) 510.00		

METHOD OF PAYMENT (check all that apply)	
<input type="checkbox"/> Check <input type="checkbox"/> Credit card <input type="checkbox"/> Money Order <input type="checkbox"/> None <input type="checkbox"/> Other (please identify): _____	
<input checked="" type="checkbox"/> Deposit Account Deposit Account Number: <u>02-2666</u> Deposit Account Name: <u>Blakely, Sokoloff, Taylor & Zafman LLP</u> For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)	
<input checked="" type="checkbox"/> Charge fee(s) indicated below <input type="checkbox"/> Charge fee(s) indicated below, except for the filing fee <input checked="" type="checkbox"/> Charge any additional fee(s) or underpayment of fee(s) during the pendency of this application.	<input checked="" type="checkbox"/> Credit any overpayments <input checked="" type="checkbox"/> Any concurrent or future reply that requires a petition for extension of time should be treated as incorporating an appropriate petition for extension of time and all required fees should be charged.

FEE CALCULATION																																																																																													
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<table border="0" style="width:100%;"> <tr> <td style="text-align: right;">Total Claims</td> <td style="border: 1px solid black; width: 40px; text-align: center;">33</td> <td style="text-align: right;">33*</td> <td style="border: 1px solid black; width: 40px; text-align: center;">0</td> <td style="text-align: right;">x</td> <td style="border: 1px solid black; width: 60px; text-align: center;">50.00</td> <td style="text-align: right;">=</td> <td style="border: 1px solid black; width: 60px; text-align: center;">\$0.00</td> </tr> <tr> <td style="text-align: right;">Independent Claims</td> <td style="border: 1px solid black; text-align: center;">6</td> <td style="text-align: right;">6*</td> <td style="border: 1px solid black; text-align: center;">0</td> <td style="text-align: right;">x</td> <td style="border: 1px solid black; text-align: center;">210.00</td> <td style="text-align: right;">=</td> <td style="border: 1px solid black; text-align: center;">\$0.00</td> </tr> <tr> <td style="text-align: right;">Multiple Dependent</td> <td colspan="7"></td> </tr> </table>	Total Claims	33	33*	0	x	50.00	=	\$0.00	Independent Claims	6	6*	0	x	210.00	=	\$0.00	Multiple Dependent								<table border="0" style="width:100%;"> <tr> <td style="text-align: right;">Large Entity</td> <td style="text-align: right;">Small Entity</td> <td></td> </tr> <tr> <td> <table border="0"> <tr> <th>Fee Code</th> <th>Fee (\$)</th> <th>Fee Code</th> <th>Fee (\$)</th> <th>Fee Description</th> </tr> <tr> <td>1202</td> <td>50</td> <td>2202</td> <td>25</td> <td>Claims in excess of 20</td> </tr> <tr> <td>1201</td> <td>210</td> <td>2201</td> <td>105</td> <td>Independent claims in excess of 3</td> </tr> <tr> <td>1203</td> <td>370</td> <td>2203</td> <td>185</td> <td>Multiple Dependent claim, if not paid</td> </tr> <tr> <td>1204</td> <td>810</td> <td>2204</td> <td>405</td> <td>**Reissue independent claims over original patent</td> </tr> <tr> <td>1205</td> <td>810</td> <td>2205</td> <td>405</td> <td>**Reissue claims in excess of 20 and over original patent</td> </tr> </table> </td> <td></td> <td></td> </tr> <tr> <td colspan="2" style="text-align: right;">SUBTOTAL (1)</td> <td>(\$) 0.00</td> </tr> </table>	Large Entity	Small Entity		<table border="0"> <tr> <th>Fee Code</th> <th>Fee (\$)</th> <th>Fee Code</th> <th>Fee (\$)</th> <th>Fee Description</th> </tr> <tr> <td>1202</td> <td>50</td> <td>2202</td> <td>25</td> <td>Claims in excess of 20</td> </tr> <tr> <td>1201</td> <td>210</td> <td>2201</td> <td>105</td> <td>Independent claims in excess of 3</td> </tr> <tr> <td>1203</td> <td>370</td> <td>2203</td> <td>185</td> <td>Multiple Dependent claim, if not paid</td> </tr> <tr> <td>1204</td> <td>810</td> <td>2204</td> <td>405</td> <td>**Reissue independent claims over original patent</td> </tr> <tr> <td>1205</td> <td>810</td> <td>2205</td> <td>405</td> <td>**Reissue claims in excess of 20 and over original patent</td> </tr> </table>	Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	1202	50	2202	25	Claims in excess of 20	1201	210	2201	105	Independent claims in excess of 3	1203	370	2203	185	Multiple Dependent claim, if not paid	1204	810	2204	405	**Reissue independent claims over original patent	1205	810	2205	405	**Reissue claims in excess of 20 and over original patent			SUBTOTAL (1)		(\$) 0.00																													
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SUBMITTED BY		<i>Complete (if applicable)</i>	
Name (Print/Type)	Brent E. Vecchia	Registration No. (Attorney/Agent)	48,011
Signature	<i>Brent E. Vecchia</i>	Telephone	(303) 740-1980
		Date	12/05/07

Based on PTO/SB/17 (02-07) as modified by Blakely, Sokoloff, Taylor & Zafman (wtr) 02/26/2007.
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FEE TRANSMITTAL for FY 2007

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27.

TOTAL AMOUNT OF PAYMENT (\$) 510.00

Complete if Known

Application Number	10/643,826
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First Named Inventor	Marco Wirasinghe
Examiner Name	Kimberly McLean-Mayo
Art Unit	2187
Attorney Docket No.	42P15529

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ None ☐ Other (please identify):

☒ Deposit Account Deposit Account Number: 02-2666 Deposit Account Name: Blakely, Sokoloff, Taylor & Zafman LLP

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below

☒ Credit any overpayments

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☒ Any concurrent or future reply that requires a petition for extension of time should be treated as incorporating an appropriate petition for extension of time and all required fees should be charged.

☒ Charge any additional fee(s) or underpayment of fee(s) during the pendency of this application.

FEE CALCULATION
1. EXTRA CLAIM FEES

	Extra Claims	Fee from below	Fee Paid
Total Claims	33	0	\$0.00
Independent Claims	6	0	\$0.00
Multiple Dependent			

Large Entity		Small Entity		
Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description
1202	50	2202	25	Claims in excess of 20
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1204	810	2204	405	**Reissue independent claims over original patent
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SUBTOTAL (1) (\$) 0.00

**or number previously paid, if greater, For Reissues, see below

2. ADDITIONAL FEES

Large Entity		Small Entity		
Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description
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1252	460	2252	230	Extension for reply within second month
1253	1,050	2253	525	Extension for reply within third month
1254	1,640	2254	820	Extension for reply within fourth month
1255	2,230	2255	1,115	Extension for reply within fifth month
1401	510	2401	255	Notice of Appeal
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1403	1,030	2403	515	Request for oral hearing
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1480	130	2480	130	Petitions to the Commissioner
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1806	180	1806	180	Submission of Information Disclosure Stmt
1809	810	1809	405	Filing a submission after final rejection (37 CFR § 1.129(a))
1810	810	2810	405	For each additional invention to be examined (37 CFR § 1.129(b))

Other fee (specify)

SUBTOTAL (2)

Fee Paid

(\$) 510.00

SUBMITTED BY

 Name (Print/Type) **Brent E. Vecchia**

 Registration No.
(Attorney/Agent)

48,011

Telephone

(303) 740-1980

Signature

Brent E. Vecchia

Date

12/05/07

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application. No.	: 10/643,826	Confirmation No.	: 7008
1 st Named Inventor	: Marco Wirasinghe	Art Unit	: 2187
Filed	: August 18, 2003	Examiner	: Kimberly N. McLean Mayo
Docket No.	: 42P15529	Customer No.	: 8791

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF
IN SUPPORT OF APPELLANT'S APPEAL
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

Sir:

This brief is in furtherance of the Notice of Appeal, filed in the above-captioned case on 10/5/2007. Applicants (hereafter "Appellants") hereby submit this Brief (37 C.F.R. § 41.37). The fees required under § 41.20(b)(2), and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying Transmittal of Appeal Brief. Appellants respectfully request consideration of this appeal by the Board of Patent Appeals and Interferences for allowance of the above-captioned patent application.

An oral hearing is not desired.

12/06/2007 PCHOMP 00000031 022666 10643826
01 FC:1402 510.00 DA

Docket No. 42P15529

-1-

App. No.: 10/643,826

TABLE OF CONTENTS

This brief contains these items under the following headings, and in the order set forth below (37 C.F.R. § 41.37(c)(1)):

I.	REAL PARTY IN INTEREST (37 C.F.R. § 41.37(c)(1)(i)).....	3
II.	RELATED APPEALS AND INTERFERENCES (37 C.F.R. § 41.37(c)(1)(ii))	3
III.	STATUS OF THE CLAIMS (37 C.F.R. § 41.37(c)(1)(iii))	3
IV.	STATUS OF AMENDMENTS (37 C.F.R. § 41.37(c)(1)(iv))	4
V.	SUMMARY OF CLAIMED SUBJECT MATTER (37 C.F.R. § 41.37(c)(1)(v))	5
VI.	GROUND OF REJECTION TO BE REVIEWED ON APPEAL (37 C.F.R. § 41.37(c)(1)(vi))	8
VII.	ARGUMENT (37 C.F.R. § 41.37(c)(1)(vii)).....	9
VIII.	CLAIMS APPENDIX (37 C.F.R. § 41.37(c)(1)(viii))	16
IX.	EVIDENCE APPENDIX (37 C.F.R. § 41.37(c)(1)(ix)).....	20
X.	RELATED PROCEEDINGS APPENDIX (37 C.F.R. § 41.37(c)(1)(x)).....	21

Page 15 of this brief bears the practitioner's signature.

I. REAL PARTY IN INTEREST (37 C.F.R. § 41.37(c)(1)(i))

The real party in interest in this appeal is Intel Corporation of 2200 Mission College Boulevard, Santa Clara, California, 95052, to whom the invention is assigned.

II. RELATED APPEALS AND INTERFERENCES (37 C.F.R. § 41.37(c)(1)(ii))

With respect to other appeals or interferences that will directly affect, or be affected by, or have a bearing on the Board's decision in this appeal, to the best of Appellant's knowledge, there are no such appeals or interferences.

III. STATUS OF THE CLAIMS (37 C.F.R. § 41.37(c)(1)(iii))

The status of the claims in this application are:

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

Claims 1-4, 20-21, 23-24, 30, 33-34 and 36 are currently pending in the application.

B. STATUS OF ALL THE CLAIMS

1. Claims cancelled: 5-19, 22, 25-29, 31-32 and 35.
2. Claims withdrawn from consideration but not cancelled: None.
3. Claims pending: 1-4, 20-21, 23-24, 30, 33-34 and 36.
4. Claims allowed: None.
5. Claims rejected: 1-4, 20-21, 23-24, 30, 33-34 and 36.

C. CLAIMS ON APPEAL

Claims 1-4, 20-21, 23-24, 30, 33-34 and 36 are on appeal.

IV. STATUS OF AMENDMENTS (37 C.F.R. § 41.37(c)(1)(iv))

A response was not submitted in response to the Final Office Action mailed on June 26, 2007. A response was submitted on April 5, 2007 in response to the Office Action mailed January 5, 2007. The response included amendments to the claims. As understood by Appellant, the Examiner entered the amendments. A copy of all claims on appeal is attached hereto as an appendix of claims

V. SUMMARY OF CLAIMED SUBJECT MATTER (37 C.F.R. § 41.37(c)(1)(v))

Embodiments of the invention pertain to memory optimization for a computer system having a hibernation mode. See for example the Title.

Independent claim 1 pertains to a method, according to a first embodiment of the invention. See for example FIG. 2, paragraphs [0012]-[0013], and original claim 1. The method includes requesting that an operating system place a mobile computer system (see e.g., paragraph [0008]) in a hibernation mode. See for example operation 200 in FIG. 2 and paragraph [0012]. The method also includes gathering a state of the mobile computer system. See for example operation 210 in FIG. 2 and paragraph [0012]. The state includes contents of a central processing unit of the mobile computer system and contents of a main memory of the mobile computer system. See for example paragraphs [0006] and [0012]. The method also includes storing the state to a first non-volatile memory cache of the mobile computer system. See for example operation 220 in FIG. 2 and paragraphs [0012] and [0009]. The first non-volatile memory cache has a storage capacity between 50-2000 megabytes. See for example paragraph [0011]. The method also includes storing the state to a hard disk drive of the mobile computer system, which is coupled with the first non-volatile memory cache (see e.g., FIG. 1A and paragraph [0008]), via a transparent write-through process. See for example paragraph [0009] and FIG. 1B. The method also includes putting the mobile computer system into the hibernation mode including putting the hard disk drive into the hibernation mode. See for example operation 230 in FIG. 2 and paragraphs [0012], [0003], and [0006]-[0007]. The method also includes waking the mobile computer system from the hibernation mode including loading the state from the first non-volatile memory cache instead of from the hard disk drive. See e.g., paragraphs [0007] and [0013].

Independent claim 20 pertains to a mobile (see e.g., paragraph [0008]) computer system, according to a second embodiment of the invention. See for example FIG. 1A and paragraphs [0008]-[0009]. The mobile computer system includes a central processing unit (CPU). See for

example CPU 110 in FIG. 1A. The mobile computer system also includes a main memory coupled to the CPU. See for example main memory 120 in FIG. 1A. The main memory is to store data to be manipulated by the CPU. See for example paragraph [0002]. The mobile computer system also includes a first non-volatile memory cache of the mobile computer system coupled to the main memory. See for example Level 3 cache 150 in FIG. 1A. The data is to be stored to the first non-volatile memory cache if the mobile computer system is placed in a hibernation mode. See for example paragraphs [0007], [0010], and [0012]. The first non-volatile memory cache has a storage capacity between 50-2000 megabytes. See for example paragraph [0011]. The mobile computer system also includes a hard disk drive of the mobile computer system coupled to the first non-volatile memory cache. See for example hard disk drive 160 in FIG. 1A. The hard disk drive has a greater storage capacity than the first non-volatile memory cache. See for example paragraph [0008] and original claim 20. The data is to be restored from the first non-volatile memory cache instead of from the hard disk drive when the system is awoken from the hibernation mode. See for example paragraphs [0007], [0010], and [0013].

Independent claim 30 pertains to an article, according to a third embodiment of the invention. The article includes a machine readable medium having a plurality of machine readable instructions that when executed by a machine cause the machine to perform operations. See for example paragraphs [0020] and [0018] and original claim 30. One operation is to write contents of a central processing unit (CPU) to a non-volatile memory cache of the machine that has a same address configuration as a hard disk drive (see e.g., paragraph [0009]) of the machine prior to the machine being placed in a hibernation mode. See for example operation 220 in FIG. 2, paragraph [0012]. Another operation is to write data from a random access memory (see e.g., paragraph [0002]) to the non-volatile memory cache of the machine prior to the machine being placed in the hibernation mode. See for example operation 220 in FIG. 2, paragraph [0012]. Another operation is to write the contents of the CPU to the hard disk drive of the machine using a transparent write-through process. See for example FIG. 1B and paragraphs [0009]-[0010].

Another operation is to initiate a load sequence from the non-volatile memory cache rather than from the hard disk drive after being awoken from the hibernation mode. See for example paragraphs [0007], [0010], and [0013].

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL (37 C.F.R. § 41.37(c)(1)(vi))

- A. Claims 1-4, 20-21, 23-24, 30, 33-34 and 36 are rejected under 35 U.S.C. § 103(a) over U.S. Patent Application Publication No. 2004/0153694 by Nicholson et al. (hereinafter "Nicholson") in view of U.S. Patent No. 5,809,223 to Lee (hereinafter "Lee").

VII. ARGUMENT (37 C.F.R. § 41.37(c)(1)(vii))**A. CLAIMS 1-4, 20-21, 23-24, 30, 33-34 AND 36 ARE REJECTED UNDER 35 U.S.C. § 103(A) OVER U.S. PATENT APPLICATION PUBLICATION NO. 2004/0153694 BY NICHOLSON ET AL. (HEREINAFTER "NICHOLSON") IN VIEW OF U.S. PATENT NO. 5,809,223 TO LEE (HEREINAFTER "LEE").**

Appellants respectfully submit that the present claims are allowable over Nicholson and Lee.

CLAIMS 1-4 and 34

Claim 1 pertains to a method comprising:

"requesting that an operating system place a mobile computer system in a hibernation mode;

gathering a state of the mobile computer system, wherein the state includes contents of a central processing unit of the mobile computer system and contents of a main memory of the mobile computer system;

storing the state to a first non-volatile memory cache of the mobile computer system, wherein the first non-volatile memory cache has a storage capacity between 50-2000 megabytes; and

storing the state to a hard disk drive of the mobile computer system, which is coupled with the first non-volatile memory cache, via a transparent write-through process;

putting the mobile computer system into the hibernation mode including putting the hard disk drive into the hibernation mode; and

waking the mobile computer system from the hibernation mode including loading the state from the first non-volatile memory cache instead of from the hard disk drive".

Nicholson and Lee do not disclose or render obvious these limitations. In particular, as understood by Appellants, Nicholson and Lee do not disclose or render obvious the claimed storing the state to a non-volatile memory cache of a mobile computer system, and the claimed storing the state to a hard disk drive of the mobile computer system through a transparent write-through process, and the claimed loading the state from the non-volatile memory cache instead

of from the hard disk drive upon waking the mobile computer system from the hibernation mode, in combination with the other claim limitations.

Nicholson pertains to reliability of **diskless** (emphasis added) **network-bootable** (emphasis added) computers using a non-volatile memory cache. See for example the Title. As discussed in the Abstract:

*“A method and apparatus is provided that provides a reliable **diskless** (emphasis added) network-bootable computers using a local non-volatile memory (NVM) cache. The NVM cache is used by the computer when the network is temporarily unavailable or slow. The cache is later synchronized with a remote boot server having **remote storage volumes** (emphasis added) when network conditions improve. It is determined if data is to be stored in the NVM cache or the remote storage volume. Data sent to the remote storage volume is transactionally written and the data is cached in the NVM cache if a network outage is occurring or a transaction complete message has not been received. The data stored in the NVM cache allows the user to continue operating during network outages and the computer can be cold-booted using the data in the NVM cache if the network is unavailable”.*

Accordingly, Nicholson pertains to diskless computers in which a **hard disk** is desirably omitted in favor of a **remote storage volume** on a remote boot server. In contrast, claim 1 specifically recites both a **non-volatile memory cache** and a **hard disk drive**.

As understood by Appellants, the Examiner has asserted that it would be obvious to modify Nicholson to include a hard disk drive based on Lee in order to meet the claimed limitations of a computer having both a **non-volatile memory cache** and a **hard disk drive**. Appellants respectfully disagree and submit that modifying Nicholson based on Lee to include both the NVM cache and a hard disk drive is inappropriate.

Nicholson specifically discusses the many problems associated with including hard disks in personal computers. For example, as discussed in paragraph [0002]:

“Hard disks are an integral component of current personal computers (PCs). Current PC architectures rely on an extremely tight integration and physical co-location of the primary system hard disk with the other PC components in order to function properly.

This underlying architectural requirement of PCs is a source of multitudinous problems, inefficiencies and limitations (emphasis added). For example, the architecture forces users to store and administer all important user "state" (documents, files, settings, certificates, and so on) locally on the hard drive in a user's desktop PC"

Accordingly, Nicholson discusses the **multitudinous problems** associated with hard disks. Appellants therefore respectfully submit that Nicholson teaches away from the Examiner's suggestion to modify Nicholson to include a hard disk as discussed in Lee.

Furthermore, as understood by Appellants, a major purpose of the non-volatile memory (NVM) cache discussed in Nicholson is to provide improved reliability when there is no local hard disk drive and when the network may be temporarily unavailable or slow. The Examiner has failed to provide sufficient reasoning why the diskless network-bootable computers in Nicholson would be modified to include both the non-volatile memory cache and a hard disk drive. Without having both the **non-volatile memory cache** and the **hard disk drive**, the limitations of claim 1 are not met.

Still further, claim 1 recites "*waking the mobile computer system from the hibernation mode including loading the state from the first non-volatile memory cache instead of from the hard disk drive*". However, as discussed in paragraph [0054]] of Nicholson, "*The computer system normally boots from the remote storage volume 182 (step 800)*", except in the event of network unavailability or power failure.

Accordingly, claim 1 and its dependent claims are believed to be allowable over Nicholson and Lee.

CLAIMS 20-21, 23-24 AND 36

As amended, claim 20 pertains to a mobile computer system comprising:

"a central processing unit (CPU);

a main memory coupled to the CPU, wherein the main memory is to store data to be manipulated by the CPU;

a first non-volatile memory cache of the mobile computer system coupled to the main memory, wherein the data is to be stored to the first non-volatile memory cache if the mobile computer system is placed in a hibernation mode, wherein the first non-volatile memory cache has a storage capacity between 50-2000 megabytes; and

a hard disk drive of the mobile computer system coupled to the first non-volatile memory cache, wherein the hard disk drive has a greater storage capacity than the first non-volatile memory cache,

wherein the data is to be restored from the first non-volatile memory cache instead of from the hard disk drive when the system is awoken from the hibernation mode”.

Nicholson and Lee do not disclose or render obvious these limitations. As discussed above, modifying Nicholson based on Lee to include both the NVM cache and a hard disk drive is inappropriate. Accordingly, Nicholson and Lee do not disclose or render obvious the claimed mobile computer system having the claimed **first non-volatile memory cache** and the claimed **hard disk drive, wherein the data is to be restored from the first non-volatile memory cache instead of from the hard disk drive when the system is awoken from the hibernation mode**, in combination with the other claim limitations.

Accordingly, claim 20 and its dependent claims are believed to be allowable over Nicholson and Lee.

CLAIMS 30 AND 33

As amended, claim 30 recites in part:

“write contents of a central processing unit (CPU) to a non-volatile memory cache of the machine that has a same address configuration as a hard disk drive of the machine prior to the machine being placed in a hibernation mode;

write data from a random access memory to the non-volatile memory cache of the machine prior to the machine being placed in the hibernation mode;

write the contents of the CPU to the hard disk drive of the machine using a transparent write-through process; and

initiate a load sequence from the non-volatile memory cache rather than from the hard disk drive after being awoken from the hibernation mode”.

Nicholson and Lee do not disclose or render obvious these limitations. As discussed above, modifying Nicholson based on Lee to include both the NVM cache and a hard disk drive is inappropriate.

Furthermore, there is no disclosure or suggestion in Nicholson or Lee that a non-volatile memory cache of the machine that has a **same address configuration** as a hard disk drive of the machine and using a transparent write-through process. As understood by Appellants, there simply is no mention of these limitations or suggestion that these limitations would be desirable.

Accordingly, Nicholson and Lee do not disclose or render obvious the claimed writing of the contents of the CPU to the **non-volatile memory cache** that has a **same address configuration** as the **hard disk drive** prior to the machine being placed in a hibernation mode, and the claimed writing the contents of the CPU to the hard disk drive using a **transparent write-through process**, and the claimed initiating a load sequence from the non-volatile memory cache rather than from the hard disk drive after being awoken from the hibernation mode, in combination with the other claim limitations.

Accordingly, claim 30 and its dependent claims are believed to be allowable over Nicholson and Lee.

CLAIMS 34 AND 36

Claim 34 recites “*wherein the hard disk drive has the same address configuration as the first non-volatile memory*”. Claim 36 recites “*wherein the first non-volatile memory cache has a same address configuration as the hard disk drive*”.

Nicholson and Lee do not disclose or render obvious these limitations. As understood by Appellants, there simply is no mention of these limitations or suggestion that these limitations would be desirable.

CONCLUSION

Based on the foregoing, Appellants request that the Board overturn the rejection of all pending claims and hold that all of the claims of the present application are allowable.

Appellants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17 for such an extension.

Please charge any shortages and credit any overpayment to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: 12/5/07

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VIII. CLAIMS APPENDIX (37 C.F.R. § 41.37(c)(1)(viii))

The text of the claims involved in the appeal are:

1. (Previously Presented) A method, comprising:

requesting that an operating system place a mobile computer system in a hibernation mode;

gathering a state of the mobile computer system, wherein the state includes contents of a central processing unit of the mobile computer system and contents of a main memory of the mobile computer system;

storing the state to a first non-volatile memory cache of the mobile computer system, wherein the first non-volatile memory cache has a storage capacity between 50-2000 megabytes; and

storing the state to a hard disk drive of the mobile computer system, which is coupled with the first non-volatile memory cache, via a transparent write-through process; putting the mobile computer system into the hibernation mode including putting the hard disk drive into the hibernation mode; and

waking the mobile computer system from the hibernation mode including loading the state from the first non-volatile memory cache instead of from the hard disk drive.

2. (Previously Presented) The method of claim 1, wherein the state is gathered by the operating system.

3. (Previously Presented) The method of claim 1, wherein the hard disk drive has a greater storage capacity than the first non-volatile memory cache.

4. (Previously Presented) The method of claim 3, wherein the first non-volatile memory cache is logically coupled to the hard disk drive.

Claims 5-19 (Cancelled)

20. (Previously Presented) A mobile computer system, comprising:

a central processing unit (CPU);

a main memory coupled to the CPU, wherein the main memory is to store data to be manipulated by the CPU;

a first non-volatile memory cache of the mobile computer system coupled to the main memory, wherein the data is to be stored to the first non-volatile memory cache if the mobile computer system is placed in a hibernation mode, wherein the first non-volatile memory cache has a storage capacity between 50-2000 megabytes; and

a hard disk drive of the mobile computer system coupled to the first non-volatile memory cache, wherein the hard disk drive has a greater storage capacity than the first non-volatile memory cache,

wherein the data is to be restored from the first non-volatile memory cache instead of from the hard disk drive when the system is awoken from the hibernation mode.

21. (Previously Presented) The system of claim 20, wherein a state of the CPU is to be stored to the first non-volatile memory cache if the system is placed in the hibernation mode.

Claim 22 (Cancelled)

23. (Previously Presented) The system of claim 21, wherein the data and the state of the CPU is to be stored to the hard disk drive through a transparent write-through process.

24. (Previously Presented) The system of claim 20, further comprising:

a driver coupled to the main memory and the first non-volatile memory cache, wherein the driver is to write the data to the first non-volatile memory cache.

Claims 25-29 (Cancelled)

30. (Previously Presented) An article comprising a machine readable medium having a plurality of machine readable instructions that when executed by a machine cause the machine to:

write contents of a central processing unit (CPU) to a non-volatile memory cache of the machine that has a same address configuration as a hard disk drive of the machine prior to the machine being placed in a hibernation mode;

write data from a random access memory to the non-volatile memory cache of the machine prior to the machine being placed in the hibernation mode;

write the contents of the CPU to the hard disk drive of the machine using a transparent write-through process; and

initiate a load sequence from the non-volatile memory cache rather than from the hard disk drive after being awoken from the hibernation mode.

Claims 31-32 (Cancelled)

33. (Previously Presented) The article of claim 30, further comprising instructions that when executed cause the machine to:

restore the CPU contents.

34. (Previously Presented) The method of claim 1, wherein the hard disk drive has the same address configuration as the first non-volatile memory.

35. (Cancelled)

36. (New) The mobile computer system of claim 20, wherein the first non-volatile memory cache has a same address configuration as the hard disk drive.

IX. EVIDENCE APPENDIX (37 C.F.R. § 41.37(c)(1)(ix))

To the best of Appellant's knowledge, no evidence has been submitted pursuant to 37 CFR Sections 1.130, 1.131, or 1.132.

X. RELATED PROCEEDINGS APPENDIX (37 C.F.R. § 41.37(c)(1)(x))

(To the best of Appellant's knowledge, there are no related appeals or interferences.)